

A STUDY IN THE LEGITIMISATION OF KNOWLEDGE: THE 'SUCCESS' OF MEDICINE AND THE 'FAILURE' OF ASTROLOGY

Peter W. G. Wright

THE sociology of science and knowledge are fields which have stimulated a considerable body of research over the last few decades both by sociologists and by historians. Surprisingly, however, until recently almost none of it has examined the processes by which the boundaries of particular areas of knowledge are established or created. This has meant that there has been an implicit tendency to regard forms of knowledge and the disciplines associated with them as demarcated from one another by divisions that are somehow natural and intrinsic to the structure of knowledge itself.

Recent work in different areas suggests, however, that there are very good reasons for doubting such an assumption. On a general level, Mary Douglas has shown that the social perception of borders and limits is one of the most fundamental social processes.¹ Pierre Bourdieu has further suggested that the erection of boundaries is an essential, and political, component of the creation of forms of knowledge both in the arts and in the sciences: it is, as he puts it, a characteristic feature of the market for symbolic goods.² Finally, sociologists of the professions such as Freidson have provided much evidence to show that the demarcation of the frontiers of competence is an important element in the construction of occupational control.³

Abundant evidence of the dangers of regarding the boundaries of knowledge as unproblematic can also be found in the writings of those authors who have made this assumption. This is particularly clear in the case of those using historical data: in their work a double distortion is all too frequently present. In medical history, for example, it has been common for researchers to begin by assuming that medicine is whatever the recognised modern professional bodies define it as being. As a result, medical sociology has concentrated on what doctors and other professionals do and especially on what they do in the most professionally dominated settings such as hospitals. This has resulted

in a near total neglect of a whole range of factors such as working conditions, diet and transport policy which—despite their undoubtedly importance to health—are not usually regarded as medical issues by the dominant professional groups. What is more, in historical work an additional problem arises: here it is often further assumed that the current modern professional definition of the field is not merely an adequate one for today, but that it is also the same as that of the hegemonic profession in past periods too. As a consequence, it is now usual to find in histories of medicine chapters devoted to quackery, herbalism, astrological medicine, and so on; as if it were self-evident that these were not real or central elements in the medicine of other ages.

Such a tendency to read back modern professional ideologies into historical material has produced curious distortions: it has meant, for instance, that the existence and success of pre-scientific medicine has scarcely ever been perceived as something needing explanation. Because we today know that the medicine of Sydenham, or Boerhaave, or Bichat was a 'precursor' of our present enlightenment, its survival is usually seen as natural or to be attributed to its cognitive power. In contrast, the decline of astrology, phrenology, mesmerism or any of a number of historical 'failures' is commonly assumed to be the result of the inadequacy of their knowledge. It is the purpose of this paper to suggest that to adopt such conclusions uncritically is simply to accept the professional rationalisations of the groups that were victorious.

Let us take, for instance, the case of the fortunes of astrology and medicine in late seventeenth-century England. In the first years of that century astrology had held a position of great—but not unchallenged—dominance. By 1700, it had ceased to be accorded a serious status in educated circles.⁴ The official medicine of the time, however, persisted and perhaps gained in influence. It will be argued that the changes in relative positions of these subjects are best understood as a reflection of the ideological and political power of the professions practising them, and not as a result of the truth or effectiveness of the knowledge which they utilised. In other words, medicine and astrology will not be seen as two naturally distinct fields based on different areas of knowledge (one 'true'; one 'false') but as two professional practices with different social positions and different success in delimiting and legitimating their activities.

Astrology and medicine do not usually appear from today's standpoint to have possessed many common features: in fact, however, they were alike in a number of respects. Both were generalising theoretical systems which claimed to give rise to a series of explanations that served as a basis for purposive, technical, action. Both presented themselves, to an extent, as 'scientific' and both were concerned with providing a framework of meaning for the misfortunes and anomalies of everyday life. In practice, there was also probably a considerable overlap between the concrete problems with which they dealt. The few surviving casebooks of seventeenth-century consultant astrologers show that a large proportion of their clientele came to them with straightforward health problems.⁵ Similarly, astrological almanacs (which were published in vast numbers in this period) typically contained many references to illness and medical treatment. It was no chance, perhaps, that William Lilly (1602-81) the best-known astrologer of the period, despite his lack of formal medical training, obtained a licence to practice medicine in the last years of his life.⁶

It is sometimes assumed that the contrasting histories of these two subjects can be explained in terms of their respective effectiveness. The issue of effectiveness and its importance for the survival of a practice, is however, a complex one. On the simplest level there is, in my view, little evidence that official seventeenth-century medicine had any beneficial effect except as a placebo.⁷ In fact, it is, if anything, quite likely—given that major therapies employed were bleeding and purging—that its results were generally harmful. Astrological practice is yet more difficult to assess. It is obviously likely that astrological consultants and almanacs from time to time provided their clients with information that was accurate or advice that was helpful. In general, their activities were unlikely to have been physically harmful because, even where dealing with matters of illness, the actions they prescribed were not usually drastic. As various writers have pointed out, astute practitioners of such 'bogus' subjects as astrology may well be capable of producing feelings of the recognition of truth, certainty and security in their clients very like placebo effects.

On a deeper level, issues of *real* effectiveness may be irrelevant to the understanding of the success of forms of practice. What is important is *perceived* effectiveness. Obviously, there is—at some point—a connection between the two: any form of treatment that is

universally successful or harmful is likely sooner or later, to be perceived as such. These situations are rare, however, and slight differences in effectiveness may be of no importance in explaining success because they are imperceptible without sophisticated statistical techniques. What is likely to be far more important in deciding whether a form of treatment is felt to work or not is its compatibility with the dominant ideology of a period. This must mean that, whatever the real differences in effectiveness between seventeenth-century medicine and astrology may have been, they are not sufficient to explain the attitudes of contemporaries towards them. To discover what might have accounted for the decline in astrological belief we have to ask rather what was happening to the practices and forces which had previously sustained it. As to medicine, we have to ask what social factors were working to make its activities appear more plausible.

In principle at least, mid-seventeenth-century medicine was a highly regulated profession. This regulation took two forms: one applying to the city of London and a seven-mile radius around it; the other to the rest of England. In London, the only physicians who were permitted to practise were those who held a degree from Oxford or Cambridge and who had also been licensed by the Royal College of Physicians of London (afterwards to be referred to as RCP). In the provinces, the system was freer and practice was open to all with a degree or who had been licensed by a bishop. At times, the RCP had also tried to claim a monopoly of control outside the capital but, by the period we are discussing, had suffered serious reversals. Nevertheless, in the provinces too a minority of physicians also presented themselves to the College for examination and, if successful, were awarded extra-licenciates.

In addition to these arrangements which only concerned physicians, there were others regulating apothecaries and surgeons. In London, these were primarily forms of guild control supervised by the RCP; in the provinces, the system was more varied and also included the episcopal licensing of surgeons.

The distinctions between these various medical groups, however, was becoming increasingly blurred by the mid-seventeenth-century. Recent research has suggested that—in the provinces at least—there was a tendency for both surgeons and apothecaries to act as general practitioners.⁸ Beneath and beyond those already mentioned were also multitudes of folk healers, 'wise women', herbalists, and others

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who had neither licence, formal training nor guild membership. Provided that they did not charge fees for their services, they were protected by a statute of 1542 (often referred to in established professional circles as the 'Quacks' Charter').

The essential point about the organization of health and healing in seventeenth-century England was its diversity: there was no single homogeneous group that could be referred to as a medical profession. Even regulated practitioners formed a hierarchy of several levels spanning wide differences in training, social origin, clienteles and treatment. The unregulated folk practitioners were almost certainly yet more heterogeneous. This variety, however, is frequently neglected because it is viewed with assumptions drawn from modern medical practice. In England today we experience a medical system that is the outcome of a further three centuries of dominance by the RCP and of other high status institutions modelled on it. To transpose it into the seventeenth century is to misinterpret the historical data and to obscure the various divergent forces at work in the healing arts of this time that conflicted with the (later triumphant) policy of the RCP.

Nonetheless, this is precisely what frequently occurs: until recently many writers seem to have assumed that the group of physicians involved with the RCP were the majority of those active. This is now known not to be the case. Beyond the 130 or so physicians licensed by that body were at least another 750 who practised by virtue of degrees or episcopal licences.⁹ Beyond these again—to judge by recent research—were perhaps a thousand surgeons and apothecaries acting as general practitioners.¹⁰ Apart from those too, there were countless numbers of unregulated healers. About the majority of practitioners, regulated and unregulated, little has been written. There is virtually no information available on the training they received, the knowledge they utilised, nor the therapies they provided. The bulk of writing on the medical knowledge and practice of the period relates only to those licensed by the RCP and, in particular to the activities of the forty or so fellows of that College. It is their knowledge and occupational definitions that have generally been taken as typical of medicine as a whole. This is a dangerous source of error since it has to be remembered that their concepts were weapons forged in an ideological war, a war for professional dominance fought against surgeons, apothecaries, and quacks. It is as ideological weapons that they must be understood and not as dispassionate images of reality.

As soon as this is done it becomes clear that the boundaries between medicine and astrology, for instance, were by no means as clear and distinct as would appear from such a conventional study as Sir George Clark's *History of the Royal College of Physicians of London*. It also becomes evident both that the dominance of the RCP did not go unchallenged even by other physicians, and that there were divergent views on the role of the medical profession. These points will be discussed in detail later. Before doing so, however, it is necessary to give a brief account of the nature and organisations of astrology at the time.

Astrology, unlike medicine, did not benefit from protective legislation. Anyone was free to set himself up as a consultant astrologer; to cast nativities, answer horary questions, practise healing, and so on provided he did not infringe too openly the Church's prohibition of magic and witchcraft. The publication of almanacs was subject to regulation although this seems to have been somewhat relaxed during the Interregnum.

In at least one respect the structure of astrological practice resembled that of medicine: it too was both heterogeneous and hierarchical. Those practising the subject ranged from the eclectic folk healers of the countryside who frequently mixed the subject with elements of magic and divination, to the couple of hundred well-known London writers of almanacs who usually also gave consultations. The only vestige of professional organisations was a body named the Society of Astrologers which is known to have existed between 1649 and 1658 and to have been revived in 1682.¹¹ Unfortunately, little is known about it except that some dozen—at least—of the best-known London astrologers attended its annual Feasts where they were regaled with sermons from clergymen favourable to the subject. As far as can be gathered from the venues these events were fairly opulent and high-status occasions. Nonetheless, the organisation did not persist (the last surviving reference to it dates from 1683) and was certainly not able to preserve astrology as a respectable activity in the eyes of the educated.

To discover why this was so it may be useful to try to examine the respective practices of medicine and astrology in terms of Terence Johnson's concept of occupational control.¹² Johnson's view is that the relationship of professionals to their clients is merely one form of the producer-consumer relationship and, like all such, is characterised

by a certain level of what he calls 'indeterminacy', a certain '*irreducible but variable minimum of uncertainty*'.¹³ This uncertainty may be resolved in the interests of either the producer or the consumer and it will be their relative power which decides who shall dominate. A situation where the professionals define the needs of the consumers and how they should be catered for is termed collegiate control; one where the consumers define the needs and the means, one of patronage. Where a third party mediates the relationship between producer and consumer, the state of affairs is referred to as mediative.

The occupational situations of astrology and medicine in the mid-seventeenth century did differ in a number of respects. To begin with, they ministered to different groups of consumers. Those of astrology were almost certainly more numerous since they embraced virtually the entire adult nation; those of regulated medicine probably excluded at least the majority of the urban and rural poor. Given Johnson's scheme, the greater size and heterogeneity of the demand for astrology would have been likely to weaken the consumers' potential power and hence, make collegiate control more probable. On the other hand, the astrological consumers had far more occasion to define their own needs than those of medicine. People went to consultant astrologers with a vast and unpredictable range of questions: wives enquired whether their missing husbands were alive; men if they should enter a given trade. Astrologers were asked whether there was buried treasure on the questioner's property; the sick wanted to know of what they were ill and how they should be cured; young women might ask if they were pregnant. There was no way in which the astrologer could redefine these problems in terms of his own problematic. The best he could do was to prefer one technique for their solution to another: always he had to find an answer. As a result, astrology persistently tended to be very *ad hoc* and problem-centred: features which Johnson sees as typical of patronage.¹⁴ Medicine was confronted with a rather different situation. Here it was far easier to redefine the client's symptoms and perceived needs in terms of an esoteric framework deriving from either the humoral theory or more modern empirical findings. It is perhaps this lack of problem-centredness which is reflected in the accusations of bookishness and lack of concern for patients which were sometimes directed against physicians.¹⁵

But what of the practitioners? How far did differences between astrologers and doctors make contrasting situations of occupational

control seem likely? Medical practitioners taken as a whole were certainly heterogeneous but, within this heterogeneity existed particular groups of practitioners with rather similar origins. The most obvious example of such a cluster was the prestigious sub-group of university educated physicians composed of individuals who had not merely shared a certain classical education but had also been exposed, in most cases, to a fairly lengthy process of professional socialisation. There was no such group of individuals within astrology. Even the successful London almanac makers and consultants included men of the most diverse backgrounds and education.

Although on balance it may appear that, in Johnson's terms, an astrologer was in a somewhat weaker position *vis à vis* his clientele than was a doctor, the difference between their two practices cannot be represented as a simple contrast between patronage and collegiate control. On several occasions, Johnson makes clear that he considers pre-nineteenth century medicine to be an example of patronage;¹⁶ using his criteria one can only conclude that astrology too falls in this category.

The difficulty with this early formulation of Johnson's theory is that it tells us nothing about the forces producing the needs for certain kinds of services.¹⁷ If we are to understand the professional relationship as but one aspect of the general relationship between producer and consumer we need to extend the analogy further and examine the elasticity of demand for the activities of professionals. We need to enquire both why consumers felt themselves constrained to demand the services of doctors or of astrologers, and also ask to what degree the professionals were able to control and stimulate needs to which only they could minister. In view of what I have already said about the effectiveness of medical treatment it appears, in addition, that we need to examine the ideological significance of the two subjects and to investigate how this may have changed.

What I am going to suggest is that the seventeenth century was a period when medical practice and astrological practice came to be distinguished from one another not simply as a consequence of medicine eschewing astrological theory or incorporating the new science into its knowledge, but rather by establishing its elite as the possessors of a special professional domain bearing a distinctive ideological relationship to the developing capitalist mode of production. It is this process which now makes it appear in retrospect as if seventeenth-

century astrology and medicine were far more clearly separated from each other than they actually were.

At the beginning of the century, it was not even easy to distinguish the two on the basis of the content of their knowledge. Late Elizabethan medicine was permeated with principles drawn implicitly or explicitly from astrological theory. Even leading members of the RCP were personally involved with it. The President elected in 1601, for instance, Dr. Richard Forster (1546?-1616) was the author of a book on astrological medicine. Even in the second half of the century such an intermingling of theories is still evident. As H. G. Dick has pointed out, there is even a sense in which Thomas Sydenham may be said to have held a number of astrological presuppositions.¹⁸

It also needs to be emphasised that the new knowledge of the period was by no means seen as inevitably undermining astrological theory. Indeed, the work of Paracelsus which contained an explicitly astrological element probably strengthened the subject as its influence spread in England. Perhaps the best way of illustrating the now largely forgotten interpenetration of the two fields is by looking at the connections and interests of a number of individuals.

Let us begin with Sir William Petty one of the founders of the Royal Society. Petty was a celebrated exponent both of the new science and of social reform, yet in his plan for a teaching hospital sent, in 1648, to Samuel Hartlib (d.1670?) he proposed that it should be administered by a mathematically trained 'steward' who should concern himself with judicial astrology, meteorology and medical statistics.¹⁹ As we shall see, this association between astrology, social reform and the new science was by no means random. Astrology was frequently regarded, particularly during the Interregnum, as a practical technology both valuable to the masses and threatening to such learned monopolies as the RCP. It is perhaps significant that Petty himself only became eligible to practise medicine in the following year when he was given a Doctorate of Medicine by the University of Oxford after the intervention of Parliamentary Representatives and the Military Governor of the city. In 1652 he also became a Fellow of the RCP.²⁰

Another representative of this tendency is the London astrologer and apothecary Nicholas Culpeper (1616-1654) who became famous for translating the RCP's Latin pharmacopoeia without their permission. Culpeper was a prolific systematiser and populariser of medical

knowledge and translated numerous standard medical works from Latin into English. There can be no doubt that for him these activities were part of a campaign against the monopolisation of learning and for the widest possible diffusion of useful knowledge to the people. Their political nature was also obviously clear to his opponents who attacked him scurrilously. In 1649, the Royalist paper *Mercurius Pragmaticus* accused him of being:

‘an absolute Atheist, . . . (who) by two yeares’ drunken labour hath Gallimawfred the apothecaries’ book into nonesense, mixing every recipe therein with some scruples, at least of rebellion or atheism, beside the poisoning of men’s bodies. And (to supply his drunkeness and leachery with thirty shillings reward) endeavoured to bring into obloquy the famous societies of apothecaries and surgeons.²¹

Contact with the intellectual circles in which the leading astrologers moved was not limited, however, to physicians seeking to undermine professional monopoly, Dr. Jonathan Goddard (1617?-1675), for example, a Fellow of the RCP and author of a book which defended the College’s regulation of the profession while criticising the apothecaries for undermining it, borrowed material from the astrologer and alchemist John Hunyades, an associate of many of the leading astrologers of his day.²²

One further illustration will suffice to show the indeterminacy of the frontier between astrology and medicine. This is the case of William Salmon (1644-1713), a leading astrologer and almanac writer as well as an author of medical works. He is usually cited in medical histories as one of the most notorious quacks of the time. Whilst it is almost certainly true that he had neither university degree or licence, it is also true that he was a man of some considerable learning. Apart from translating the works of Dolaeus and Sydenham into English his own work, *Synopsis Medicinae* is commonly cited as a typical—if unoriginal—example of the medicine of the period.²³ Salmon’s case epitomises the tendency of some historians to accept the ideology of the RCP at its face value: there can be no other reason why a recent writer should, without further justification, refer in passing to Salmon as, ‘the most famous of the infamous’.²⁴

As soon as one begins to examine in detail the practice of seventeenth-century astrology it becomes clear that no rigid barriers marked it off from that of medicine: indeed, the closer one looks, the more it becomes apparent that there was a significant intermixing of ideas, activities and personnel. What was distinctive about medicine—

or rather that sphere of medicine which has often been taken retrospectively to represent the whole—was that it was developing a form of professional regulation and control which astrology was not. It was the growth of this control and its associated ideology which was beginning to set medicine off from astrology and other, hitherto associated activities. It was for this reason that the unlicensed practice and advertising of Salmon was so derided and the democratising tactics of Culpeper were seen as such a threat.

The RCP and its dominance did not go unchallenged, however: at this period, at least two attempts were made to form competing organisations of physicians. In 1656, William Rand wrote to Samuel Hartlib suggesting the formation of a 'College of Graduate Physicians' to include all those who were either barred from the RCP for technical reasons (for example, holding a foreign not an English University degree) or who were unwilling to join it.²⁵ Again in 1665, there was a proposal to form a 'Society of Chymical Physicians' as a way of organising Helmontian and Paracelsian practitioners against the dominant Galenic orthodoxy. Neither plan reached fruition.²⁶

Whilst there is no evidence of any direct association between astrology and these attempts to question and reform the prevailing definition of medicine, it is the case that such demands and the advocacy of astrology form part of a persistent sub-stratum of ideas in seventeenth-century radical thought. A good instance of this can be found in the work of John Webster (1610–1682), a sectarian preacher and advocate of the new learning, who published a biting (and perhaps unfair) attack on university education, *Academiarum Examen*, in 1654. Webster criticised the universities for their scholasticism and lack of interest in science and, with the support of numerous references to the most advanced seventeenth-century philosophical and scientific writing, called for a practical education to include—amongst other things—chemistry, astrology, and Helmontian medicine. The essence of his argument was that learning should be available to all, just as there ought to be a priesthood of all believers. Learning had become the private monopoly of the university elite and was maintained in this state by stress on the unpractical.

If astrology and medicine were not entirely separate and distinct fields, and if it is also the case that medical practitioners, taken as a whole, were not in a position especially favourable to exerting collegiate control, how then are the success of medicine and the

decline of astrology to be explained? I believe that this can be done by trying to understand the social roles of the two practices; by attempting to discover what needs they addressed and by what criteria they were judged. To do this involves seeing both, to an extent, as crafts. That is to say, in examining them as a set of techniques for the solution of socially given ends and considering their position relative to other, more generally recognised, crafts of their day.

The notion of a craft may be a useful concept for investigating such practices provided one makes certain provisions about its use. To start with, it is necessary to emphasise that the needs to which crafts minister are not only physical needs, and that they are all socially shaped. There is no sense in which there is an independent need even for such essential crafts as baking, brewing or pottery-making. They are all responses to material needs that have been generated in certain—but not all—kinds of social formation. Obviously, these needs are related to physical drives; nonetheless, they are always mediated by the social form in which they occur. Similarly, just as there can be no asocial, independent needs so there can be no neutral, purely instrumental crafts to provide for them. Crafts and technologies always bear the stamp of the relations of production within which they have been created.

What is necessary, I would argue, is to deny the implied distinction between instrumental techniques and interpretative systems and to envisage them as the two extremes of a continuum. If this is done, technical needs can be understood as embodying, to various degrees, both symbolic and material elements. To take but one example, the notion of a good piece of furniture implies not merely 'material' but also 'aesthetic' considerations. The craft of furniture design has therefore to be seen as responding to socially created needs which may vary over time and from culture to culture. In the same way in medicine, the development of therapies to treat forms of behaviour which have only recently come to be labelled as pathological (e.g. the 'discovery' of hyperkinesis/Minimum Brain Dysfunction in the USA)²⁷ must be understood not in terms of a technical response to a pre-existing need, but as part of a social process whereby both need and response are generated. Such a process can be analysed with categories like power, ideology, deviance and control.

Seen from this viewpoint, the decline of astrology and the survival

of medicine may be approached in a new way. It is no longer necessary either to search for differences in their cognitive power nor to see the two practices as operating in radically different situations of occupational control. Instead, one must ask what the connections of the two activities were with the material and ideological forces of their day. To do this is to begin to unravel how it was that both the needs and responses with which astrology was concerned came to lose their social legitimacy at a time when the reverse was happening to regulated medicine.

In order to begin this analysis I want to propose a tentative classification for both technical and interpretative systems which relates them to the relations of production. I shall argue that by placing seventeenth-century astrology and medicine in such a scheme it is possible to obtain new insight into their fates.

My main criterion for classifying different cognitive systems is that of their relationship to the needs of capitalist production (understood in what I take to be Marx's original sense and not in terms of a restrictively 'economic' view). In these terms, I would distinguish one group of symbolic and cognitive activities which, in general, would include most of what were considered as crafts in the 17th century. (Navigation, surveying, ship-building, metal-working, brewing, etc). The common element of such a group would be the directness of its contribution to capitalist production expressed by utility and profitability. This is not to ignore the possibility (as writers like Braverman and Dickson have argued)²⁸ that many such techniques also possessed important ideological and social control features which may even have been the determining reason for their adoption by capitalists. I am merely suggesting that, analytically, the contribution of such subjects may be seen primarily as satisfying the socially-created economic needs of capitalist production.

A further group of symbolic activities might be identified whose relationship to capitalist production was primarily one of what one could call 'applied ideologies'. These I see as activities which, while principally concerned with generating a variety of ideological forms which legitimised capitalist domination, also pretend to manipulate nature in a utilitarian way. In retrospect, one may be inclined to view their manipulation of nature as ineffective even in terms of their own expressed intentions. To stress ineffectiveness, however, is in part to miss the point: the central issue from the perspective of this analysis

is the contribution of such activities to the ideological structuring of a meaningful world. I would be inclined to see seventeenth-century licensed medical practice (as well, perhaps as political theorising and other activities) as suitable for inclusion in such a category. In my view, late seventeenth-century medicine, although of dubious utility as a *curing* activity may usefully be regarded as a *classifying* and *labelling* activity which appears to have been increasingly concerned with structuring everyday reality in terms akin to the new dominant ideological currents associated with the rise of capitalist production. I see these features as including the following.

Firstly, a Baconian emphasis on the domination of nature. In the medicine of the RCP this is expressed by therapeutics which stressed intervention at the expense of acquiescence to nature or notions of harmony. A trend at this time towards specifics (*i.e. ad hoc* remedies not deriving from the Galenic theory of humours) may also be seen as part of this tendency. Astrology and astrological medicine, in contrast, took universal harmony and its expression in the microcosm/macrocossom analogy as fundamental.

Secondly, the emphasis within regulated medicine on the lasting face-to-face relationship of learned doctor and patient for instrumental, curative, purposes is another aspect of practice congruent with ideologies of individualism. Again there is a contrast with astrology. There, individual consultation seems to have been fleeting and occasional: it seems that there was little tendency for the wealthy to have family astrologers in the way that they were beginning to have family physicians. What is more important, the tendency for astrology to be diffused by almanacs or popularised works like those of Culpeper and Salmon created a state of affairs where the relationship of professional and client were in large degree superfluous.

Thirdly, a further way in which regulated medicine was beginning to develop in accord with new ideologies was in its emphasis on an individualistic aetiology of disease. This parallel is apparent in many places, but most obvious, perhaps, in Sydenham's stress on the need for the close observation of the course of illness in a particular patient. This, like the supposed Puritan attitude to vocation, drew attention to immediate and individualised causes and drew away, precisely, from the cosmic factors that were the concern of the astrologers. The emphasis on mediate—as opposed to final—causes is again obvious in the attack on astrology by the licensed physician John Cotta (1575?—

1650) earlier in the century. Cotta's point was not that astrological forces did not exist, merely that they were mediated by other less remote factors which were more amenable to action by the doctor.²⁹

The final, and perhaps most important, difference in the ideological roles of late seventeenth-century astrology and medicine concerns their different relationships to the newly institutionalised science of the Restoration period. Despite the establishment of the Royal Society and the self-evident enthusiasm of many of its early members for utilitarian applications of knowledge, the last quarter of the century, taken as a whole, was a period in which science became academic; was integrated into the restrictive educational monopolies of university learning; and was used as an advanced legitimisation for the dominant kinds of theology and political ideology. Licensed medicine, of course, was an integral part of this monopoly and benefitted accordingly. It is no chance that when Seth Ward (1617-89) wrote a strident defence of the universities against Webster's polemic he not only condemned astrology as a 'ridiculous cheat'³⁰ but cited medicine (licensed medicine) as an area which was benefiting from scientific advance. It is also interesting to note that he condemned Webster's advocacy of chemistry as too inappropriately utilitarian for the type of students that the universities then received.

The RCP may be seen as successful at this time because they were able to sustain and develop a definition of practice that was not merely in tune with the ideological needs of the social elite but which also suited the political conjunctures of the time. From this basis, they were able in later centuries to go on to impose their definition of practice on the whole of regulated medicine in England. The astrologers, in contrast, were carrying on activities that no longer harmonised—even positively clashed—with the role accorded to knowledge in Restoration England. Their professional organisation failed, one would imagine, as a result not of the ineffectiveness of their theory nor the intrinsic weakness of their professional position, but rather in consequence of the lack of fit between their doctrines and the newly dominant ideological concerns of the age.

The boundary which arose between astrology and medicine was, above all, one created and maintained by licensed medicine and other monopolies of learning as a means to mark out and appropriate fields of ideologically acceptable practice; only secondarily did it relate to the content and purpose of the two practices.

All this is not to argue, however, that the decline of astrology among the educated at this time was historically inevitable. Had the Levellers triumphed in the late 1640s; had the education system been transformed along the lines suggested by Dell or John Webster; and had medical care evolved in ways advocated by Nedham and Culpeper, astrology might well have emerged strengthened and have persisted for a further period. My thesis is simply that the reasons for the success of licensed medicine and the failure of astrology as 'applied ideologies' lie not in their intrinsic qualities but in the particular outcome of the general social struggles of the time. It is in the interplay of these power and ideological relations that the boundary and fates of the two practices have to be understood.

Sheffield City Polytechnic.

¹ See for instance, M. Douglas: *Purity and Danger*, Routledge & Kegan Paul, London, 1966.

² P. Bourdieu: 'Le Marché des Biens Symboliques', *L'Année Sociologique*, Vol. 22, 1971, pp. 49-126.

³ E. Freidson: *Profession of Medicine*, Dodd Mead, New York, 1970.

⁴ For evidence of this decline see P. W. G. Wright: 'Astrology and Science in Seventeenth-Century England', *Social Studies of Science*, Vol. 5, 1975, pp. 399-422.

⁵ For an account of these casebooks see K. Thomas: *Religion and the Decline of Magic*, Weidenfeld & Nicholson, London, 1971.

⁶ See C. H. Josten (ed.): *Elias Ashmole (1617-1692)*, Oxford University Press, London, 1966, p. 1197.

⁷ Thomas McKeown, for example, has argued that the net effect of medicine before the nineteenth century was almost certainly harmful. T. McKeown: *Medicine in Modern Society*, Allen & Unwin, London, 1965.

⁸ See R. S. Roberts: 'The Personnel and Practice of Medicine in Tudor and Stuart England: Part 1, The Provinces', *Medical History*, Vol. 6, 1962, pp. 363-382.

⁹ This is the approximate number of practitioners listed in J. H. Raach: *A Directory of English County Physicians, 1603-43*, Dawsons, Folkstone, 1962.

¹⁰ My estimate based on Roberts's findings, Roberts: op. cit.

¹¹ For evidence of these meetings see Josten: op.cit.

¹² Discussed in T. Johnson: *Professions and Power*, Macmillan, London, 1972.

¹³ ibid., p. 41.

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¹⁴ *ibid.*, pp. 72 ff.

¹⁵ For example, in Culpeper's preface to his translation of the Royal College of Physicians' *Pharmacopoeia*, see N. Culpeper: *Pharmacopoeia Londoniensis or the London dispensatory further adorned*, 1653.

¹⁶ Johnson: *op. cit.*, 1972, p. 69.

¹⁷ This is, however, an issue which he refers to by implication only in his 1975 paper. See T. Johnson: 'The Professions in the Class Structure' paper presented to the British Sociological Association Conference, 1975. Now published in R. Scase (ed.): *Industrial Society: Class, Cleavage and Control*, Allen and Unwin, London, 1977.

¹⁸ See H. G. Dick: 'Students of Physic and Astrology. A survey of Astrological Medicine in the Age of Science', *Journal of History of Medicine*, Vol. 1 1946, pp. 300-315 and 413-432.

¹⁹ Quoted in C. Webster: *The Great Instauration*, Duckworth, London, 1975, p. 294.

²⁰ For details see W. Munk: *The Roll of the Royal College of Physicians of London*, Vol. 1, Longman, London, 1861, pp. 252-253.

²¹ Quoted in F. N. L. Poynter: 'Nicholas Culpeper and his Books', *Journal of the History of Medicine*, Vol. 17, 1962, pp. 152-167.

²² See F. S. Taylor and C. H. Josten: 'Johannes Banfi Hunyades', *Ambix*, Vol. 5, 1953, pp. 44-52.

²³ For instance, A. W. Franklin: 'Clinical Medicine' in A. Debus (ed.): *Medicine in Seventeenth-Century England*, University of California Press, London, 1974, pp. 143-144.

²⁴ L.R.C. Agnew: 'Quackery' in Debus (ed.): *op.cit.*, p. 321.

²⁵ See Webster: *op. cit.*, 1975, pp. 300 ff.

²⁶ H. Thomas: 'The Society of Chymical Physicians' in E. A. Underwood (ed.): *Science, Medicine and History*, Oxford University Press, London, 1953.

²⁷ See P. Conrad: 'The Discovery of Hyperkinesis: Notes on the Medicalization of Deviant Behaviour', *Social Problems*, Vol. 23, no. 1, 1975, pp. 12-21.

²⁸ H. Bravermann: *Labour and Monopoly Capital*, Monthly Review Press, London, 1974; D. Dickson: *Alternative Technology*, Fontana, London, 1974.

²⁹ Cotta's views are described in Dick: *op. cit.*, pp. 427-430.

³⁰ S. Ward: *Vindicae Academiarium, containing some briefe Animadversions, upon Mr. Webster's Book, stiled the Examination of Academies*, 1654, p. 30.